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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,605	12/05/2001	Wayne Smith	50277-1755	3517

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EXAMINER

NGUYEN, MERILYN P

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,605

Applicant(s)

SMITH ET AL.

Examiner

Merilyn P. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/23/2005.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: Detailed Action.

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DETAILED ACTION

1. In response to the communication dated 08/24/2005, claims 1-28 are pending in this office action.
2. This application claims priority to Provisional Application No. 60/326,275 filed on September 28, 2001.

Acknowledges

3. Receipt is acknowledged of the following items from the Applicant:
 - The applicant's amendments have been considered and made of record.
 - Information Disclosure Statement (IDS) filed on 23 May 2005 and made of record.

The references cited on the PTOL 1449 form have been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, there is no step to arrive the method for managing materialized views. The preamble of the claim recites the method for managing materialized views. However, the body of the claim only recites creating materialized views.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 10-19 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harumi A. Kuno and Elke A. Rundernsteiner in the article "Using Object-Oriented Principles to Optimize Update Propagation to Materialized Views" (herein after Harumi), in view of Raitto (US 5,991,754).

Regarding claim 1, Harumi discloses a method for managing materialized views (See page 310, left column, 3rd paragraph), the method comprising the steps of:

- o a database management system receiving a request to generate a materialized view that contains objects of an object class (See page 311, left column, paragraph 2, lines begin with "relational and object-oriented systems...update operations[3]);
- o in response to receiving said request, said database management system creating said materialized view (See page 311, sections 3.1 and 3.2);
- o said database management system performing operations on said objects as instances of said object class (See page 312, left column, section 4); and

wherein said object defines one or more attributes and one or more routines to invoke to operate on the state of the objects of said object class (See page 311, section 3, lines begin with "Let O be an infinite set...denoted classes").

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However, Harumi is silent as to wherein the step of creating said materialized view includes creating a container table that includes corresponding columns that correspond to said attributes and that hold values for said attributes. On the other hand, Raitto teaches creating the materialized view includes creating a container table that includes corresponding columns that correspond to the attributes and that hold values for the attributes (See col. 2, lines 55-63 and col. 17, line 30 to col. 18, line 55, Raitto et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to create the materialized view by creating a container table (summary table) that includes corresponding columns that correspond to the attributes and that hold values for said attributes as suggested by Raitto because it's well known in the art that creating the materialized view includes creating a container table (summary table) speeding queries process based on container table.

Regarding claim 2, Harumi discloses wherein the step of creating said materialized view includes the step of creating an object materialized view, wherein said object materialized view is associated with an object class and contains instances of said object class that correspond to rows of said object materialized view (See page 311, sections 3, 3.1, and 3.2).

Regarding claim 3, Harumi discloses wherein the step of creating said materialized view includes creating an object-relational view that includes at least one object column (See page 311, section 3, line begin with "Let O be an infinite set...properties").

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Regarding claim 4, Harumi discloses wherein the method further includes the step of receiving another request from a user requesting performance of said operations on said objects as instances of said object class (See page 312, left column, section 4).

Regarding claim 5, Harumi discloses wherein the step of said database management system performing operations includes performing an operation on said objects by invoking a routine defined by said object class (See page 312, left column, section 4).

Regarding claim 10, Harumi discloses wherein said materialized view includes an object column that has a plurality of nested tables that contain nested table objects (See page 311, section 3, lines begin with "Objects that share a common structure..." of paragraphs 2 and 3).

Regarding claim 11, Harumi discloses wherein the step of creating said materialized view includes the steps of creating another table that holds attributes of nested table objects of said plurality of nested tables (See page 311, section 3.1).

Regarding claim 12, Harumi discloses said materialized view is associated with one or more base tables; a base table of said one or more base tables includes a base column typed as an object reference; and wherein the step of creating said materialized view includes creating a particular column of said container table that corresponds to said base column, and is typed as an object reference (See pages 311 and 312, sections 3, 3.1, 3.2).

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Regarding claim 13, Harumi discloses a first scope of said base column is a first set of tables; and the particular column has a second scope that is different than said first scope (See page 311, section 3.1, paragraph 4th).

Regarding claim 14, Harumi discloses wherein the second scope is another materialized view based on said first set of tables (See pages 311, 312, sections 3.1 and 3.2, wherein multiview is implemented).

Regarding claims 15-19 and 24-28, Harumi discloses inherently a computer-readable medium carry one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the above methods as one having ordinary skill in the art would have recognized that methods above can't be performed without computer-readable instruction.

6. Claims 6-9 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harumi A. Kuno and Elke A. Rundernsteiner in the article "Using Object-Oriented Principles to Optimize Update Propagation to Materialized Views" (herein after Harumi), in view of Raitto (US 5,991,754), and further in view of Lieuwen (US 6,272,502).

Regarding claims 6-8, Harumi discloses all the claimed subject matter as set forth above except for specifically teaching the step of generating refresh code that refreshes said materialized view based on modifications to one or more base tables of the materialized views.

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On the other hand Lieuwen teaches generating refresh code that refreshes the materialized views based on medications to one or more base tables (See abstract, and Fig. 3B, and col. 3, line 61 to col. 4, line 14, Lieuwen et al.). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the method of refreshing materialized views of Lieuwen into the system of Harumi so that the materialized view could be refresh every time the database have been modified. The motivation would have been to enable the Harumi system to include up to date view, thus providing accurate results.

Regarding claim 9, Harumi/Lieuwen discloses wherein the step of generating refresh code includes the step of generating refresh code that references said corresponding columns but not as said attributes of said object class (See col. 3, line 61 to col. 4, line 14, Lieuwen et al.).

Regarding claims 20-23, Harumi discloses inherently a computer-readable medium carry one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the above methods as one having ordinary skill in the art would have recognized that methods above can't be performed without computer-readable instruction.

Response to Arguments

7. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marilyn P Nguyen whose telephone number is 571-272-4026. The examiner can normally be reached on M-F: 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.


FRANTZ GOBY
PRIMARY EXAMINER